

## Description

The ekinex® USB/KNX interface EK-BA1-TP allows to establish a bidirectional data connection between a PC and a KNX bus installation. The device enables addressing, parameter setting, visualization, protocolling and diagnosis of KNX bus devices. With the USB/KNX interface every bus device of a KNX bus installation can be addressed. The communication between the USB/KNX interface and the connected devices is handled via the common EMI protocol. This protocol is designed for actual and future applications. The connection between KNX and PC running standard software like ETS, EITT and other software is handled by the FALCON driver. The device supports long messages (up to 228 byte length) and ensures an easy handling of the software with operating systems not supported by the FALCON driver (e.g. Linux). For specific diagnostic applications like EITT the device is supporting a „Raw Frame“ operating mode.

## Function

- Connection of a PC to a KNX bus installation

## Main characteristics

- Housing in plastic material
- Mounting on 35 mm rail (according to EN 60715)
- Protection degree IP20 (installed device)
- Safety class II
- Weight 100 g
- 2 modular units (1 unit = 18 mm)
- Dimensions 36 x 90 x 70 mm (WxHxD)

## Technical data

### Power supply

- KNX bus: 30 Vdc SELV
- Current consumption max (from bus): 10 mA
- PC: from USB
- Energy consumption max (from USB): 100 mW

### Environmental conditions

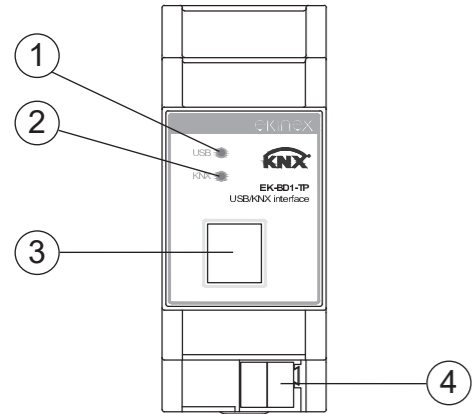
- Operating temperature: - 5 ... + 45°C
- Storage temperature: - 25 ... + 55°C
- Transport temperature: - 25 ... + 70°C
- Relative humidity: 95% not condensing

## Display and connection elements

The device is equipped with 2 LEDs, a terminal for connecting the KNX bus line, and an USB connector.

### Display elements

- LED (1) for status displaying between PC and KNX bus (on = PC connected to the interface, blinking = data traffic between interface and PC)
- LED (2) for status displaying on the KNX bus line (on = KNX bus connected, blinking = data traffic on the KNX bus line)



- 1) USB LED (data transmission)  
2) KNX LED (bus status)  
3) USB connector  
4) Terminal block for KNX bus line

## Mounting

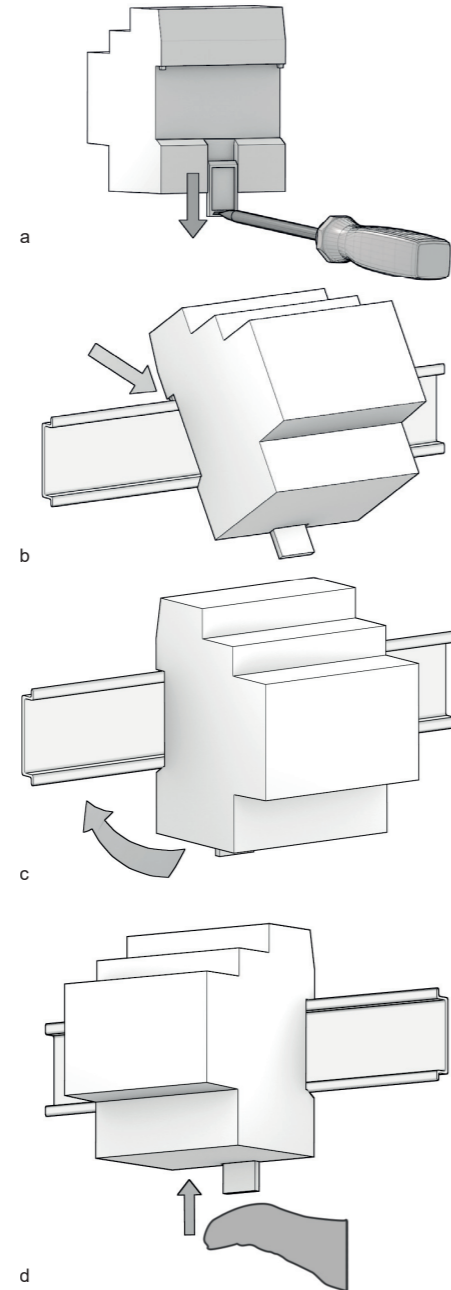
The device has degree of protection IP20, and is therefore suitable for use in dry interior rooms. The housing is made for rail mounting according to EN 60715 in boards or cabinets for electrical distribution. The installation is in horizontal position, the correct position is when the KNX bus terminal is located at the bottom. For the installation of the device on the rail proceed as follows:

- with the aid of a tool bring the locking device in

the fully lowered position (a);

- place the upper edge of the rear inner profile on the upper edge of the rail (b);
- rotate the device towards the rail (c);
- push the locking device upward until it stops (d).

Before removing the device, be sure the USB cable has been disconnected and the bus terminal has been extracted from its slot. Use a screwdriver to slide down the locking device and remove the device from the rail.



**Note.** When mounting the device in boards and cabinets it shall be provided the necessary ventilation so that the temperature can be kept within the operating range of the device.

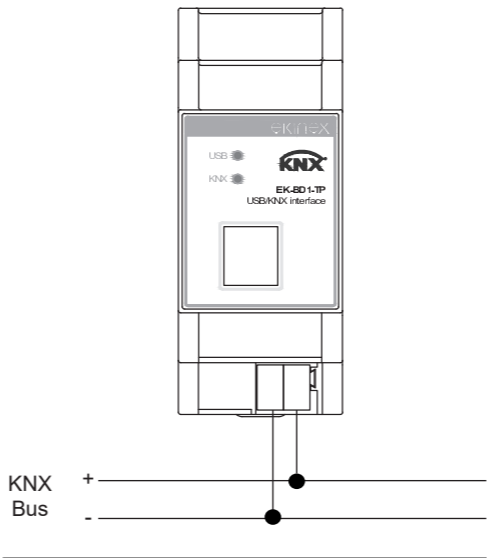
## Connection of the KNX bus line

The connection of the KNX bus line is made with the terminal block (4) included in delivery and inserted into the slot located on the bottom part of the front.

### Characteristics of the KNX terminal block

- spring clamping of conductors
- 4 seats for conductors for each polarity
- terminal suitable for KNX bus cable with single-wire conductors and diameter between 0.6 and 0.8 mm
- recommended wire stripping approx. 5 mm
- color codification: red = + (positive) bus conductor, black = - (negative) bus conductor

**Warning!** In order to supply the KNX bus lines use only KNX bus power supplies (e.g. ekinex EK-AB1-TP or EK-AG1-TP). The use of other power supplies can compromise the communication and damage the devices connected to the bus.



**Warning!** The electrical connection of the device can be carried out only by qualified personnel. The incorrect installation may result in electric shock or fire. Before making the electrical connections, make sure the power supply has been turned off.

## Connection of a PC

The connection to the PC is made through the USB connector (B type, female) located on the front panel of the device. The USB connector is galvanically isolated from the KNX bus.

**Note.** The connection cable between the interface and the PC is not included in the delivery. Use a cable with a USB type B male connector for connecting the USB/KNX interface.

## Configuration and commissioning

The device does not require any configuration with the ETS® (Engineering Tool Software) program; for its functioning it is anyway necessary to upload in ETS the application program APEKBD1TP##.vd4 (## = release). In general there is no need of a specific device driver, since the USB HID class is used. For this device class, device driver are existing in all common operating systems. In case of using older versions of ETS or FALCON driver, it can be necessary to provide manufacturer specific device information to FALCON. This can be done by importing the specific data base entry.

**Note.** The configuration and commissioning of KNX devices require specialized skills. To acquire these skills, you should attend the workshops at KNX certified training centers.

## Commissioning

For the commissioning of the device turn on the power supply of the KNX bus line to which the device is connected. The yellow LED marked “KNX” indicates the device operating.

## Marks

- KNX
- CE: the device complies with the Low Voltage Directive (2014/35/EU) and the Electromagnetic Compatibility Directive (2014/30/EU).

## Maintenance

The device is maintenance-free. To clean use a dry cloth. It must be avoided the use of solvents or other aggressive substances.

## Disposal

At the end of its useful life the product described in this datasheet is classified as waste from electronic equipment in accordance with the European Directive 2012/19/EU (WEEE recast), and cannot be disposed together with the municipal undifferentiated solid waste.

**Warning!** Incorrect disposal of this product may cause serious damage to the environment and human health. Please be informed about the correct disposal procedures for waste collecting and processing provided by local authorities.

## Warnings

- Installation, electrical connection, configuration and commissioning of the device can only be carried out by qualified personnel in compliance with the applicable technical standards and laws of the respective countries
- Opening the housing of the device causes the immediate end of the warranty period
- In case of tampering, the compliance with the essential requirements of the applicable directives, for which the device has been certified, is no longer guaranteed
- ekinex® KNX defective devices must be returned to the manufacturer at the following address: EKINEX S.p.A. Via Novara 37, I-28010 Vaprio d'Agogna (NO) Italy

## Other information

- The instruction sheet must be delivered to the end customer with the project documentation
- For further information on the product, please contact the ekinex® technical support at the e-mail address: support@ekinex.com or visit the website www.ekinex.com
- KNX® and ETS® are registered trademarks of KNX Association cvba, Brussels

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## USB / KNX interface

Code: EK-BD1-TP



EK-BD1-TP

## EKINEX S.p.A.

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